INFORMATION SHEET
ORDER NO. _____
KINGS WASTE AND RECYCLING AUTHORITY
FOR POSTCLOSURE MAINTENANCE
HANFORD MUNICIPAL SOLID WASTE LANDFILL
KINGS COUNTY

Kings Waste and Recycling Authority (hereafter Discharger) owns and maintains the Hanford Municipal Solid Waste Landfill about 2.5 miles east of the City of Hanford.

The 96.4-acre waste management facility (facility) contains one existing unlined waste management unit (Unit) covering 79 acres. The Unit was closed in 1999. The Unit was classified as a Class III waste disposal site for the discharge of municipal solid waste in accordance with Title 27, California Code of Regulations (CCR), Section 20005, et seq. (Title 27). The site and waste classification remain the same for this Order.

The climate in the southern San Joaquin Valley is semi-arid, with hot, dry summers and cool winters. The facility receives an average of 8.29 inches of precipitation per year. The mean pan evaporation is 78.98 inches per year. The 100-year, 24-hour precipitation event is estimated to be 2.55 inches, based on Department of Water Resources' bulletin entitled *Rainfall Depth-Duration-Frequency for California*, revised November 1982, updated August 1986.

The facility lies within the southern portion of the San Joaquin Valley. Valley-fill sediments in the Hanford area exceed 6,000 feet in thickness and result from alluvial, fluvial, lacustrine, and marine depositional processes. These processes have combined to form a heterogeneous mixture of clays, silts, sands, and gravels.

Surface drainage is toward Tulare Lake in the Hanford-Lemoore Hydrologic Area of the Tulare Lake Basin. There are no perennial streams in the immediate vicinity of the facility. As shown on Attachment A, the Settlers Ditch passes from north to south along the eastern margin of the facility. Since the facility has been closed, runoff from the facility will not cause the degradation of water in the ditch. The designated beneficial uses of valley floor waters (including lakes, canals, streams, and rivers), as specified in the *Water Quality Control Plan for the Tulare Lake Basin, Second Edition* (hereafter Basin Plan), are agricultural supply, industrial service and process supply, water contact and non-contact water recreation, warm fresh water habitat, wildlife habitat, preservation of rare, threatened and endangered species, and groundwater recharge.

There are 35 domestic, 23 agricultural, and one domestic/agricultural supply wells within one mile of the facility. No surface spring, or other source of groundwater supply, has been observed.

The first encountered groundwater is 87 to 118 feet below the native ground surface depending on location. Groundwater elevations range from 161 feet MSL to 130 feet MSL. The groundwater is unconfined. The depth to groundwater fluctuates seasonally as much as 12 feet depending on location. Monitoring data indicates background groundwater quality has an electrical conductivity (EC) ranging between 480 and 1,400 micromhos/cm. The most recent monitoring (April 2007) measured EC at a concentration of 958 micromhos/cm in background groundwater.

The groundwater gradient is toward the west, but varies seasonally and periodically is toward the southwest. The most recent groundwater elevation data (April 2007) indicates that the average groundwater gradient is approximately 0.0047 feet per foot. The most recent groundwater velocity calculations (First Semi-Annual 2007 Groundwater Monitoring Report) indicate that the average groundwater velocity is 340 feet per year.

The designated beneficial uses of the groundwater, as specified in the Basin Plan, are municipal and domestic, agricultural, and industrial supply.

Volatile organic compounds are often detected in a release from a waste management unit, and are the primary waste constituents detected in groundwater beneath a municipal solid waste landfill. Since volatile organic compounds are not naturally occurring, and thus have no background value, they are not amenable to the statistical analysis procedures contained in Title 27 for the determination of a release of wastes from a Unit. Title 27 does provide for the non-statistical evaluation of monitoring data that will provide the best assurance of the earliest possible detection of a release from a Unit. However, Title 27 does not specify a specific method for non-statistical evaluation of monitoring data.

A Regional Water Board may specify a non-statistical data analysis method pursuant to Title 27 CCR Section 20080(a)(1). To provide the best assurance of the earliest possible detection of a release of non-naturally occurring waste constituents from the Unit, this Order specifies a non-statistical method for the evaluation of monitoring data.

The specified non-statistical method for evaluation of monitoring data in this Order provides two criteria (or triggers) for making the determination that a release of waste constituents from the Unit occurred. The presence of two waste constituents above their respective method detection limit (MDL), or one waste constituent detected above its practical quantitation limit (PQL), indicates a release of waste from the Unit. Following an indication of a release, verification testing must be conducted to determine whether a release from the Unit actually

occurred, or whether there is a source of the constituents other than the landfill, or if it was a false detection. The detection of one waste constituent above its MDL provides the earliest possible detection of a release. However, the high risk of false-positive analytical results that unnecessarily increase sampling and analytical costs, make it unreasonable. Consequently, the detection of two waste constituents above the MDL as a trigger is appropriate.

Monitoring of the unconfined groundwater zone confirmed non-naturally occurring volatile organic compounds (VOCs) to be in groundwater including: acetone; benzene, cis-1,2-dichloroethene (cis-1,2-DCE); trichlorofluoromethane (CFC-11); dichlorodifluoromethane (CFC-12); tetrachloroethene (PCE); trichloroethane (TCE); 1,1-dichloroethane (1,1-DCA); 1,1-dichloroethene (1,1-DCE); methylene chloride; trans-1,2-dichloroethene (1,1-DCE); vinyl chloride; and 1,1,1-trichloroethane. Groundwater monitoring also confirmed naturally occurring inorganic waste constituents within Point of Compliance wells at concentrations statistically exceeding background concentrations and include: bicarbonate; carbonate; sulfate; total dissolved solids (TDS); calcium; magnesium; and potassium.

An Evaluation Monitoring Program (EMP) for the facility was completed in May 2002 and determined the nature of the release and the lateral and vertical extent of groundwater degradation. Based on the results of the EMP, the lateral extent of the VOC plume is approximately 1,500 feet west of the Unit, 750 feet southwest of the Unit; 200 feet north of the Unit; and 100 feet east and south of the Unit. The lateral extent of inorganic waste constituents in groundwater falls within the VOC plume boundary.

As shown on Attachment B, the Keverline residence has a domestic well that is approximately 1,050 feet west and hydraulically downgradient of the landfill and the Mendoza residence has a domestic well that is approximately 1,300 feet west/southwest and hydraulically downgradient of the landfill. In-home activated carbon water filtration systems have been installed at the Keverline and Mendoza residences.

Cleanup and Abatement Order No. 96-706, issued on 19 November 1996, required the Discharger to: submit an Engineering Feasibility Study (EFS) for a Corrective Action Program (CAP); submit a time schedule to establish a CAP; and implement the CAP in accordance with the approved time schedule.

On 9 October 1991, the United States Environmental Protection Agency (USEPA) promulgated regulations (Title 40, Code of Federal Regulations, Parts 257 and 258, “federal municipal solid waste [MSW] regulations” or “Subtitle D”) that apply, in California, to dischargers who own or operate Class II or Class III landfill units at which municipal solid waste was discharged. The majority of the

federal MSW regulations became effective on the “Federal Deadline”, which was on 9 October 1993. With the issuance of Resolution No. 93-62, the State Water Resources Control Board established a statewide policy for the regulation of discharges of municipal solid wastes consistent with Subtitle D. Following the issuance of Resolution No. 93-62, the USEPA deemed the State of California to be an approved state, meaning that compliance with the applicable state regulations constitutes compliance with the corresponding portions of the federal Subtitle D regulations. These requirements are consistent with Resolution No. 93-62 and Subtitle D, and implement the appropriate state regulations in lieu of Subtitle D. The Discharger is responsible for complying with all applicable provisions of Subtitle D not implemented with this Order.

The waste discharge requirements are being revised for the purpose of postclosure maintenance of the facility. Therefore, the action to revise waste discharge requirements for the existing Unit at this landfill is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code Section 21000, et seq., and the CEQA guidelines, in accordance with Title 14, CCR, Section 15301.

VSM: 8/8/07